

REMARKS

Claims 1-5 and 16-22 are pending in the present application. In this Amendment, Applicants cancel claims 6-15 from further consideration in this application. Applicants amend claims 1, 4, and 5 to more clearly recite subject matter that Applicants regard as the invention. Applicants add new claims 16-22. Support for new claims 16-22 may be found at least at page 8, line 4, to page 10, line 30, of the originally filed specification. No new matter is added by this Amendment. Applicants do not concede that the subject matter encompassed by the claims prior to this Amendment is not statutory or patentable over the art cited by the Examiner. Applicants amend the claims solely to facilitate expeditious prosecution of potentially allowable subject matter. Applicants respectfully reserve the right to pursue the claims as presented prior to this Amendment and additional claims in one or more continuing applications.

Applicants respectfully request reconsideration of the pending claims in view of the following remarks.

I. Telephone Interview

Applicants' representative contacted the Examiner to conduct a telephone interview prior to the response due date of the Office Action. However, due to the Examiner's schedule, a telephone interview was not able to be scheduled prior to the response due date. Therefore, Applicants respectfully request that the Examiner contact Applicants' representative to discuss this application prior to taking any further action on this case.

II. Objection to the Drawings

The Office objects to the drawings because FIGS. 1 and 2 are not labeled as prior art. Applicants submit replacement drawing sheets to label FIGS. 1 and 2 as "PRIOR ART," as recommended in the Office Action. Therefore, Applicants respectfully request withdrawal of the objection to the drawings.

III. Objection to the Specification

The Office objects to the specification because the lines of the claims are too crowded and because the specification fails to provide a heading such as “Summary of the Invention.” Applicants note that the Preliminary Amendment filed June 5, 2005, included a listing of the claims in which the line spacing of the retained text is spaced properly. The Preliminary Amendment also changed the text on page 8, line 15, from “Disclosure of the Invention” to “Summary of the Invention.” Furthermore, this Amendment includes a listing of the claims wherein the claims are properly spaced. Therefore, Applicants respectfully request withdrawal of the objection to the specification.

IV. 35 U.S.C. § 112, Alleged Indefiniteness of Claims 1-5

The Office rejects claims 1-5 under 35 U.S.C. § 112, second paragraph, as allegedly being failing to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. Applicants respectfully traverse this rejection.

With respect to claim 1, the Office Action states that it is unclear to the Examiner how the non-legacy computer executes an operation on a master version of data stored on a legacy computer, since the body of the claim does not clearly show how the legacy and non-legacy computers communicate. However, it is not the role of the claims to teach one skilled in the art to reproduce the invention, but rather to define the legal metes and bounds of the invention. *In re Rainer*, 305 F.2d 505, 509, 134 U.S.P.Q. 343, 346 (C.C.P.A. 1962). If the metes and bounds of the claimed invention are clearly ascertainable, then the claim cannot be properly rejected as “vague” or “indefinite” under 35 U.S.C. § 112, second paragraph. In this case, the scope of claim 1 is clear, even if the manner of implementation is unclear to the Examiner. Whether the claim leaves unclear the manner in which the feature of a non-legacy computer executing an operation on a master version of data stored on a legacy computer may be implemented is irrelevant where the claim clearly covers all forms of implementation. *In re Warmerdam*, 33 F.3d 1354, 1361, 31 U.S.P.Q.2d 1754, 1759 (Fed. Cir. 1994).

With respect to claims 1 and 5, the Office Action alleges that these claims are rendered indefinite because they include the word “if.” Applicants respectfully disagree.

The word “if” is not a relative term and requires no definition. A person of ordinary skill in the art would reasonably know the meaning of the word “if.” Furthermore, the Office Action alleges that the claims do not show what would happen if the execution step is not successful, even though claim 5 clearly and unquestionably shows what would happen if the execution step is not successful. However, to advance prosecution, Applicants amend claims 1 and 5 to remove recitation of the word “if.”

With respect to claim 3, the Office Action alleges that the phrase “at least one operation comprises two or more operations” renders the claim indefinite. Applicants respectfully disagree. The phrase “at least one” establishes a range of one or more. The phrase “two or more” further defines the range. That is, “at least one” is broader than “two or more”; therefore, claim 3 properly further limits claim 1, because “two or more” is a narrower range.

With respect to claim 4, the Office Action states that the phrase “sending by said first non-legacy computer, the results from said executing said at least one operation on said master version step and a new copy of the master version of data” renders the claim indefinite because it is allegedly unclear whether the limitations following the phrase are part of the claimed invention. However, the Office Action does not correctly quote the claim language. Claim 4, as amended in the Preliminary Amendment filed June 5, 2005, does not include the quoted claim language. Applicants submit that claim 4 as previously amended and presented herein is clear and definite.

Furthermore, the Examiner seems to reject claim 4 because the claim does not explain and teach how to make and use the invention. Again, it is not the role of the claims to teach one skilled in the art to reproduce the invention, but rather to define the legal metes and bounds of the invention. *In re Rainer*, 305 F.2d 505, 509, 134 U.S.P.Q. 343, 346 (C.C.P.A. 1962). If the metes and bounds of the claimed invention are clearly ascertainable, then the claim cannot be properly rejected as “vague” or “indefinite” under 35 U.S.C. § 112, second paragraph.

Therefore, Applicants respectfully request withdrawal of the rejection of claims 1-5 under 35 U.S.C. § 112, second paragraph.

V. 35 U.S.C. § 101, Alleged Non-Statutory Claims 11-15

The Office rejects claims 11-15 under 35 U.S.C. § 101 as allegedly being non-statutory. Applicants cancel claims 11-15. Applicants do not concede that the subject matter encompassed by the claims prior to this Amendment is not statutory or patentable over the art cited by the Examiner. Applicants amend the claims solely to facilitate expeditious prosecution of potentially allowable subject matter.

Therefore, Applicants respectfully request withdrawal of the rejection of claims 11-15 under 35 U.S.C. § 101.

VI. 35 U.S.C. § 103, Alleged Obviousness of Claims 1-5

The Office rejects claims 1-5 under 35 U.S.C. § 103(a) as allegedly being unpatentable over *Gehman et al.* (U.S. Patent No. 7,136,881) in view of *Grimsrud* (U.S. Patent No. 6,546,437). Applicants respectfully traverse this rejection.

Gehman appears to teach a method and system for processing directory events. An event master server 40 records modification messages in a queue 40b. Event master server 40 includes event message provider 40a, which sends the modification messages as event messages to event service server 41, which includes replicate data monitor 41a. Event service server 41 stores sequence numbers for event messages in queue 41b. Replicate data monitor 41a sends event messages to event client server, which includes event notifier 42a and directory client register 42b. In this way, changes to a master directory database may be replicated or synchronized to directory clients. That is, changes at a master directory database are perpetuated down to clients.

In contradistinction, the present invention provides a method of synchronizing data in a distributed data processing system. The method stores a master data in at least one legacy computer system and enables a first non-legacy computer to support synchronization. A second non-legacy computer (e.g., a client) stores a copy of the master data in a second non-legacy computer, executes at least one operation on said copy of the master data, and sends the at least one operation to said first non-legacy computer. The first non-legacy computer executes the at least one operation on said master data at said at least one legacy computer. The method determines whether the first non-legacy computer successfully executed the at least one operation and

synchronizes said master data by applying said at least one operation in response to the first non-legacy computer successfully executed the at least one operation.

Gehman does not teach or suggest executing at least one operation on a copy of the master data in a second non-legacy computer. Rather, *Gehman* teaches perpetuating changes **from** the master directory database **to** the clients, not the other way around. Therefore, it follows that *Gehman* also fails to teach sending, by said second non-legacy computer, said at least one operation to said first non-legacy computer and executing, by said first non-legacy computer, said at least one operation on said master data at said at least one legacy computer, because *Gehman* teaches an event service server that perpetuates changes from the master directory database to clients and fails to teach a non-legacy computer that receives changes made at the client and executes those changes on a legacy computer.

Furthermore, *Gehman* does not teach or suggest a determination of whether the first non-legacy computer successfully executed the at least one operation. The Office Action alleges that *Gehman* teaches such a determination because *Gehman* teaches an option of “yes” in step S96 in FIG. 3B, which is reproduced as follows:

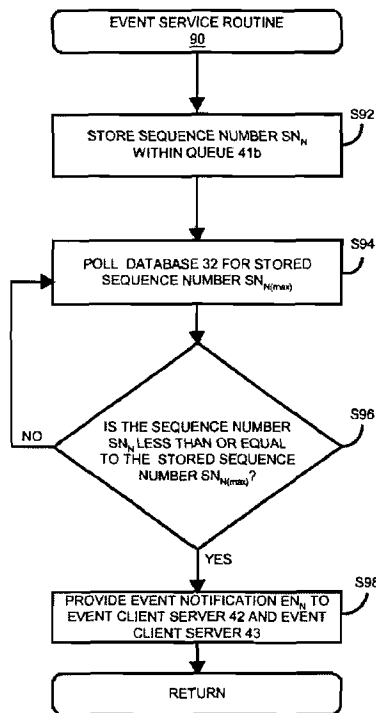


FIG. 3B

As seen in FIG. 3B of *Gehman*, step S96 determines whether a sequence number is less than or equal to the stored sequence number. This determination decides whether to send an event notification to an event client server. *Gehman* states:

Referring additionally to FIG. 3B, during stage S92 of routine 90, replicate data monitor 41a stores sequence number SN_N within queue 41b. Replicate data monitor 41a proceeds to stage S94 of routine 90 to poll replicate directory database 32 for a sequence number SN_{MAX} stored therein. Those of ordinary skill in the art will appreciate there can be a significant gap of time from a completion of the writing of sequence number SN_N to master directory database 31 by event message provider 40a and a subsequent completion of the replication of all of the data within master directory database 31, including the manipulated data and sequence number SN_N , to replicate directory database 32. As such, those of ordinary skill in the art will further appreciate that sequence number SN_N being greater than sequence number SN_{MAX} is an indication that the replication of all of the data within master directory database 31, including the manipulated data and sequence number SN_N , has not occurred. Conversely, those of ordinary skill in the art will further appreciate that sequence number SN_N being less than or equal to sequence number SN_{MAX} is an indication that the replication of all of the data within master directory database 31, including the manipulated data and sequence number SN_N , has occurred.

Thus, during stage S96 of routine 90, replicate data monitor 41a compares sequence number SN_N and sequence number SN_{MAX} (to determine if sequence number SN_N is less than or equal to sequence number SN_{MAX} . If sequence number SN_N is greater than sequence number SN_{MAX} , replicate data monitor 41a loops back to stage S94. If sequence number SN_N is less than or equal to sequence number SN_{MAX} , replicate data monitor 41a proceeds to stage S98 to provide event notification EN_N (or an edited version thereof) to event client server 42 and event client server 43.

Therefore, *Gehman* teaches a determination concerning the sequence of event notifications, but does not teach a determination of whether a first non-legacy computer successfully executes at least one operation on a legacy computer, wherein the at least one operation is received from a second non-legacy computer.

Still further, the Office Action acknowledges that *Gehman* does not teach that one computer is a legacy computer and other computers are non-legacy computers. The Office Action alleges that *Grimsrud* generally teaches both legacy and non-legacy computers and concludes that it would have been obvious to a person of ordinary skill in the art to incorporate legacy and non-legacy computers in *Gehman*. Applicants respectfully disagree.

Grimsrud teaches communication between a computer and a peripheral with a legacy failure control mechanism. *Grimsrud* teaches a computer 174 connected to a peripheral 176 via an advanced technology attachment (ATA) interface 178. The computer 174 may send a request for information to the peripheral, and the peripheral may send a reply to the computer that causes the computer to not use the peripheral. See *Grimsrud*, col. 1, lines 30-56. The computer and peripheral can be any combination of legacy and non-legacy in various embodiments of *Grimsrud*.

However, *Grimsrud* does not teach a person of ordinary skill in the art to modify *Gehman* to include legacy and non-legacy computers. There is no problem in *Gehman* for which *Grimsrud* is a solution. The Office Action proposes that a person of ordinary skill in the art would have been motivated to combine the teachings of *Gehman* and *Grimsrud* “in order to the method of detecting any changes or any hardware connected to the system.” While this may be a problem solved in *Grimsrud*, this motivation does not apply to *Gehman* in any significant way. Furthermore, even given this motivation, the teachings of *Grimsrud* would not lead a person of ordinary skill in the art to modify the teachings of *Gehman* in such a way that would result in the presently claimed invention, because neither reference teaches or suggests storing a copy of master data in a second non-legacy computer, executing at least one operation on the copy of the master data, sending the at least one operation to a first non-legacy computer, executing the at least one operation on the master data at the at least one legacy computer, determining whether the first non-legacy computer successfully executed the at least one operation, and synchronizing the master data by applying the at least one operation in response to the first non-legacy computer successfully executed the at least one operation, as recited in claim 1, for example.

The applied references, taken individually or in combination, fail to teach or suggest each and every claim feature. Therefore, *Gehman* and *Grimsrud* do not render claim 1 obvious. Because claims 2-5 depend from claim 1, the same distinctions between *Gehman* and *Grimsrud* and claim 1 apply for these claims. In addition, claims 2-5 recite additional combinations of features not taught or suggested by the prior art.

Therefore, Applicants respectfully request withdrawal of the rejection of claims 1-5 under 35 U.S.C. § 103(a).

VII. New Claims 16-22

Applicants submit that the prior art of record does not teach or suggest the combination of features recited in new claims 16-22. More specifically, independent claim 16 recites a method, in a middle tier computer, of synchronizing data in a distributed data processing system. The method comprises receiving, from a client computer, a request to synchronize master data stored at a back-end tier computer with a copy of the master data stored at the client computer. The request to synchronize is sent from the client computer to the middle tier computer responsive to a user performing at least one operation on the copy of the master data at the client computer. The method further comprises sending a synchronization response to the client computer, receiving a start synchronization request from the client computer, wherein the start synchronization request is sent from the client computer to the middle tier computer responsive to the synchronization response, receiving the at least one operation from the client computer, and replaying the at least one operation on the back-end tier computer. The method further comprises receiving from the back-end tier computer results of the at least one operation and updated master data and sending the results of the at least one operation and the updated master data to the client computer. The method further comprises sending an end synchronization response to the client computer. The prior art of record, including *Gehman* and *Grimsrud*, fails to teach or suggest a middle tier computer that synchronizes operations performed at a client computer with a back-end tier computer in the manner recited in independent claim 16. Because claims 17-22 depend from claim 16, the same distinctions between the prior art and claim 16 apply for these claims. In

addition, claims 17-22 recite additional combinations of features not taught or suggested by the prior art.

VIII. Conclusion

It is respectfully urged that the subject application is now in condition for allowance. The Examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the Examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'S. Tkacs', written over a horizontal line.

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Stephen R. Tkacs
Reg. No. 46,430
WALDER INTELLECTUAL PROPERTY LAW, P.C.
P.O. Box 832745
Richardson, TX 75083
(214) 722-6422
AGENT FOR APPLICANTS